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The Carboneras Beach archaeological site on Bioko Island (Equatorial Guinea): old data and new stories about a unique culture

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ABSTRACT

Off the coast of Cameroon, Bioko Island was populated by the Bubi at an early stage of the Bantu expansion, although surprisingly they did not use iron until the arrival of the Europeans much later. Unfortunately, despite some research having been undertaken, mostly during the Spanish colonial period, the local archaeological sequence remains poorly known. On the basis of some short excavations carried out on Bioko, this paper evaluates the state of knowledge of the island's archaeology. There is a pressing need for more research on the island, in contrast to the continent, where archaeological knowledge has made significant progress in recent decades. So far there are no clear archaeological connections between the two. However, some clues suggest that the Bubi's ancestors may have inhabited the mainland in southwestern Cameroon before emigrating to the islands, perhaps 2000 years ago. In view of the rapid development of infrastructure on Bioko, as well as on the mainland of Equatorial Guinea, a major multidisciplinary research programme centred on archaeology should be launched without further delay.

RÉSUMÉ

L'île de Bioko située au large du Cameroun a été peuplée par les Bubi tôt au cours de l'expansion bantoue, mais de manière surprenante ils n'ont utilisé le fer que bien plus tard avec l'arrivée des Européens. Malheureusement, malgré quelques recherches menées surtout pendant la période coloniale espagnole, la séquence archéologique reste mal connue. A partir des résultats des fouilles limitées que nous avons pu mener à Bioko, cet article fait le point de nos connaissances de l'archéologie de l'île. Il existe un besoin pressant de nouveaux travaux sur l'île par rapport au continent où les recherches archéologiques se sont bien développées ces dernières décennies. Jusqu'à présent il n'y a pas archéologiquement de rapprochements possibles entre les deux. Cependant quelques éléments permettent de suggérer que les ancêtres des Bubi étaient d'abord établis dans le sud-ouest du Cameroun avant d'émigrer, peut-être il y a 2000 ans, sur l'île. Compte tenu du développement rapide des infrastructures tant à

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Equatorial Guinea and Bioko Island: an introduction

Archaeologically, the island of Bioko offers an unusual paradox. Its archaeological riches have been known for almost a century and its importance in relation to major issues regarding Bantu expansion and the spread of metallurgy has been obvious for a long time (Cline 1937: 24; Martinez Santa-Olalla 1947; David 1980: 621; Vansina 1984: 131–133), yet it has generated little research in recent decades.

Equatorial Guinea is the only Spanish-speaking country in Central Africa (Figure 1). It is made up of four geographical units: on the continent, the four provinces of Centro-Sur, Kie-Ntem, Litoral and Wele Nzas (formerly Rio Muni) between Cameroon and Gabon, Bioko (formerly Fernando Poo) off Nigeria and Cameroon, the Corisco and Elobey islands near Gabon and Annobón island isolated in the Gulf of Guinea southwest of



Figure 1. Equatorial Guinea and its four geographical components, the continental provinces, Bioko, the Corisco and Elobey Islands, and Annobón.

São Tomé and Príncipe, itself a Portuguese speaking country. Annobón, São Tomé, Príncipe and Bioko are part of a chain of volcanic islands connected with Cameroon's volcanoes, especially Mount Cameroon near Douala, forming the southwestern part of the 'Cameroon volcanic line' (Asaah *et al.* 2015).

Annobón, São Tomé and Príncipe remained deserted until their discovery by Portuguese explorers in 1471–1473; in contrast, Bioko, discovered in 1472, was highly populated. This small and mountainous island of only 2000 km² had perhaps as many as 30,000 people in the 1820s, which meant that in some areas, excluding the uninhabited steepest mountain slopes, population density may have been as high as 30 people per square kilometre (Vansina 1990: 137). Despite its position close to the mainland and its early contact with Europeans, Bioko remained isolated. According to Vansina (1990: 137–138), this resulted:

'in part from the adverse patterns of the prevailing winds and currents on its southern and eastern coasts, and in part from the volition of its inhabitants, the Bubi. By the early 1500s they had already earned the reputation of being 'savage people', and they successfully refused to be drawn into the slave trade. To counter kidnapping of slaves along the coast, they moved their settlements away from the shores to high and less accessible ground ... The extent of Bubi isolation can be gauged by linguistic and ethnographic evidence.'

Bubi culture and society were indeed very original in comparison with their counterparts on the continent while their various villages and chiefdoms displayed many common patterns (Tessman 1923; Aymemi 1942). Although their oral traditions tell of a Great Migration in four successive waves that may have conquered earlier settlers and given birth to a new aristocracy (Aymemi 1942: 13–22), 'the relative isolation of the islanders has been evident to outsiders from the outset because of the Neolithic character of Bubi material culture. They were the only Bantu speakers who did not mine, smelt, or use iron metals until c. 1800' (Vansina 1990: 139).

Equatorial Guinea: history of archaeological research

Although the first archaeological discovery on Bioko dates back to December 1827, when a Spanish copper coin of Charles III minted in 1774 and another in silver were dug up (Holman 1840: 326, 331), knowledge of Equatorial Guinea's prehistoric past begins much later in July and August 1946. At that time a Spanish academic mission from Madrid's Seminario de Historia Primitiva del Hombre found artefacts near Bata on the African mainland and on Bioko, where stone tools, polished stone axes and pottery were collected at several sites. The planned publications of the mission never materialised, although interesting pictures and notes were archived at Madrid University (Martinez Santa-Olalla 1947; Gozalbes Cravioto *et al.* 2013) and artefacts collected then on Bioko at the sites of Carboneras and Bolaopi were found in 2012 in a box at the Department of Prehistory of Madrid's Complutense University (Sánchez-Elipse Lorente 2015: 24). They have been recently described and illustrated (Sánchez-Elipse Lorente 2015: 180–183). The first papers on Bioko's prehistory came out only in the late 1950s thanks to the work of local Spanish priests doing research there (Figure 2).

Numerous small research reports were published in the local newspaper *La Guinea Espanola* written by Martín del Molino, Panyella and Perramón about their work on

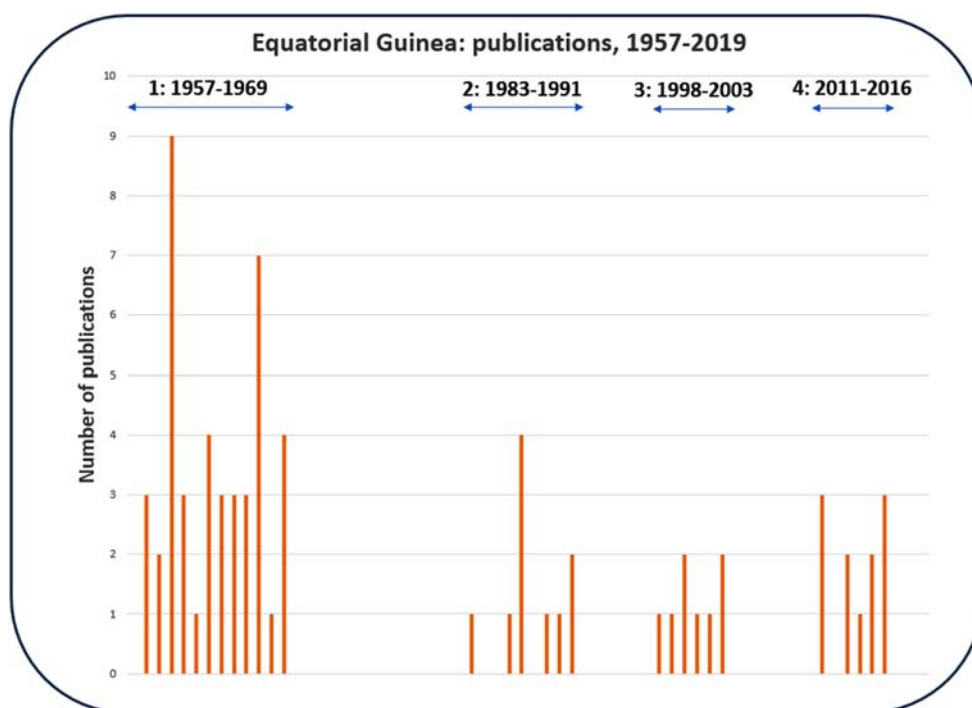


Figure 2. Publications of archaeological interest about Equatorial Guinea published since 1957. Period 1: colonial times and Spanish priests on Bioko and the continent. Period 2: academic research from Belgium, Gabon and the United Kingdom on Bioko and the continent. Period 3: academic research from the United States on the continent. Period 4: academic research from Spain on Corisco and from Mexico on the continent.

Bioko and the Rio Muni region of Equatorial Guinea (for a full bibliography see <http://www.african-archaeology.net/biblio/bibliogui.html>). This Spanish-speaking quarterly journal was printed by the Clarentian missionaries in Santa Isabel (Malabo) between 1903 and 1969, with an interruption between 1940 and 1943: all the issues can be read online on <http://www.bioko.net/guineaespanola/laguies.htm>. The first synthesis followed surveys conducted in the 1950s (Bioko: Martín del Molino 1960, 1965, 1968; Martín del Molino *et al.* 1960; Rio Muni: Perramón 1968). The first excavation, carried out by A. Panyella (1959; 1962) and J. Sabater (1959) in 1958 and 1959, was at Carboneras Beach on Bioko (Martín del Molino 1989a: 5). It was followed by several others on the same island conducted by Martín del Molino in 1961 and 1968 at Bolaopi and in 1966 at Carboneras Beach and at Timbabé, where Timbabé phase pottery was clearly stratified under the Carboneras phase material and associated with a small standing stone. This suggested that the practice of erecting slabs of stone came to the island quite early (Martín del Molino 1989a). Meanwhile, R. Perramón identified sixteen sites on Bioko with standing stones of various sizes that were still in use by the Bubi people for various rituals (Figure 3). He also excavated on the mainland at the Portuguese fort near Kogo and near Bata cathedral (Perramón 1968).

When Equatorial Guinea became independent in October 1968, the new president requisitioned the Catholic Mission Museum in Malabo with its 13,000 artefacts and

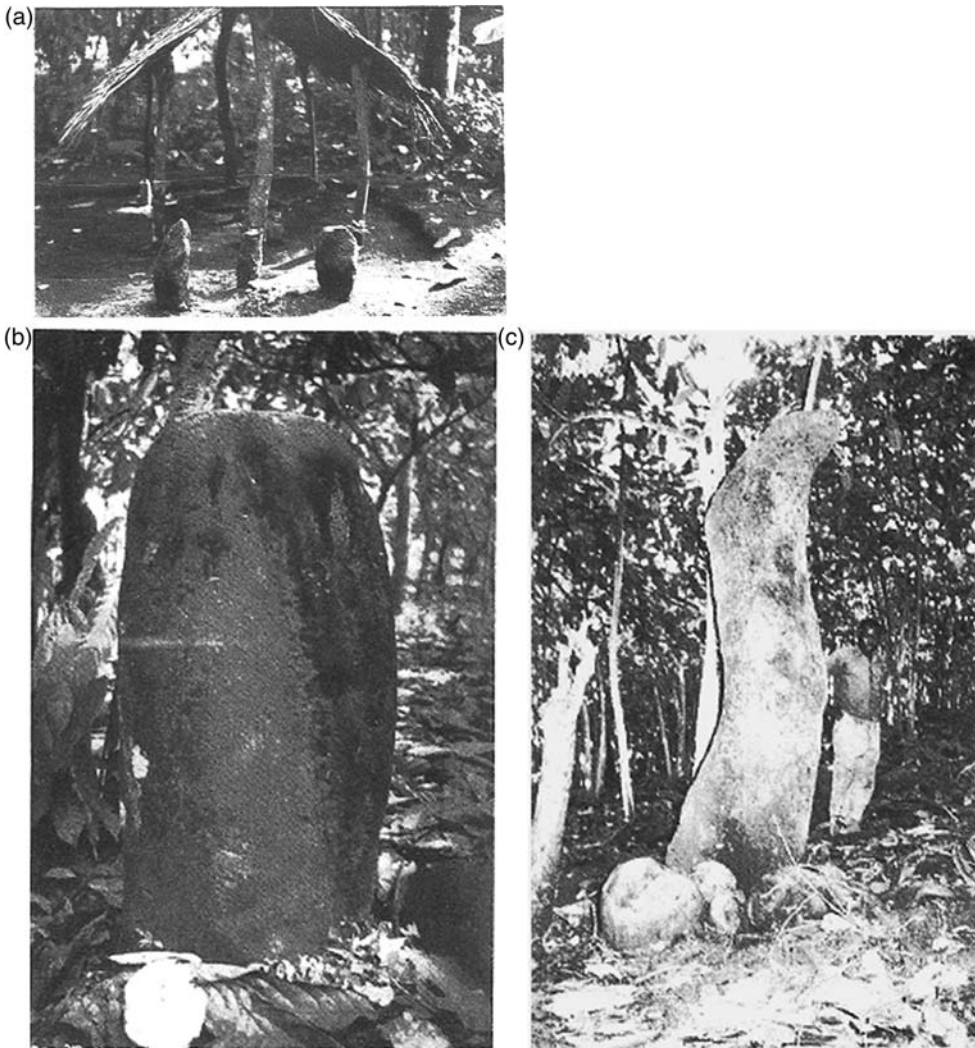


Figure 3. Standing stones of differing sizes and volumes, related to various cults or spirits found on Bioko: 1: *ripecho* spirit stones for guarding children; 2 a stone associated with the female spirit responsible for the earth's fertility, at Balombe; 3 the Rebola site standing stone, near to which the Bubi keep enacting their main rites (Martín del Molino 1989b: Plates 7.3, 38.1 and 38.2).

prohibited any further research. The relevant archives and drawings maintained since the 1950s were salvaged and sent to Spain (Martín del Molino 1989a: 7).

A long period of inactivity then ensued until the 1980s, following the first president's deposition in 1979. This period coincided with a growing interest in the archaeology of the island's 'Neolithic' and in the Bubi in relation to the early steps of the Bantu expansion (de Maret 1982). First, Joseph Sheppherd, a Baha'i faith propagandist who was for two years the curator of the National Ethnological and Archaeological Museum in Malabo, Equatorial Guinea's capital, undertook a survey of Bioko as part of his MPhil thesis (Sheppherd 1983). A few years later, surveys and test excavations were carried out on the continent (Clist 1987, 1998), and then on Bioko (de Maret and Clist 1987;

Clist 1990, 1998), followed by unpublished surveys and test excavations by J. Gutiérrez Fernandez, a student from the Université Libre de Bruxelles in search of a PhD topic. A local secondary school professor, Aurelio Esuba Moiche, also collected pottery from Playa Carboneras during this time (A.E. Moiche, pers. comm.).

After another interruption, Spanish archaeologists undertook work on the Middle Stone Age of the continental provinces of Equatorial Guinea between 1998 and 2003 (Mercader and Martí 1999, 2000, 2003; Mercader *et al.* 2002; Martí 2003). More recently, our knowledge of the country's Iron Age period has expanded thanks to another team of Spanish archaeologists, who carried out rescue excavations on the island of Corisco, as well as exploring the historical archaeology there and in surrounding areas (González-Ruibal *et al.* 2011, 2013; Sánchez-Elipe Lorente 2015, Sánchez-Elipe Lorente *et al.* 2016). Since 2014, the only ongoing research programme has once again only concerned the Middle Stone Age, this time along the Uoro Rift of the mainland (Terrazas and Rosas 2016).

As a result, it is obvious that most of the sequences available to us, both on Bioko and in the continental provinces of the former Rio Muni, remain those developed in the 1950s and 1960s by Spanish priests like Martín del Molino, none of whom had any formal archaeological training. Moreover, our understanding of Equatorial Guinea's prehistoric chronology remains limited to around 57 radiocarbon dates (Clist 2020), the first of them published in the mid-1960s (Sheppard and Swart 1966, 1967; Fagan 1967), and to just a few excavated sites with stratigraphic profiles (Figure 4).

The known Bioko Island sequence

According to Martín del Molino's (1989a) latest publication, six cultural phases can be identified on Bioko. The first, which is undated and consists of stone tools without pottery, is called the Pre-Sangoan or Banapa industry. It is limited so far to three sites in the northwest of the island with further isolated surface finds mixed with 'Neolithic' artefacts all over Bioko, with a concentration in its eastern part (Martín del Molino 1965: 14, 1989a: 9). This 'Pre-Sangoan' could be evidence of the first islanders before the arrival of the Bubi who still inhabit the island. They speak a Bantu language that separated at a very early date from other Bantu speakers as they migrated south (Vansina 1990: 50, 52). After crossing over from the continent, the Bubi remained without iron tools, which were a later innovation (Vansina 2006), until the arrival of the first European navigators. They were quite isolated for a long time and their fascinating culture has been documented in detail, thanks to the work of Tessmann (1923).

After the so-called 'Pre-Sangoan', the five subsequent phases with pottery are better known and may well represent the arrival of the Bubi's ancestors on Bioko: Timbabé AD 1–400, Carboneras AD 400–800, Bolaopi AD 800–1300, Buela AD 1300–1700 and Balombé AD 1700–1900 (Martín del Molino 1989b: 19). It is difficult to follow this chronological timeline completely, however, considering the ^{14}C dates available today (Table 1). While the Timbabé phase does indeed seem to predate the Carboneras (Martín del Molino 1989a: 14), the latter is well bracketed by 12 dates between AD 460 and 1040. The subsequent Bolaopi phase evolves from around AD 910 (SR-104) followed by the Buela from around AD 1210 (SR-105). The precise association of CSIC-97, which calibrates to cal. AD 1350–1510, is unclear as Martín del Molino linked it once to Bolaopi and once to Buela pottery. If one takes into account the calibration, it is, however

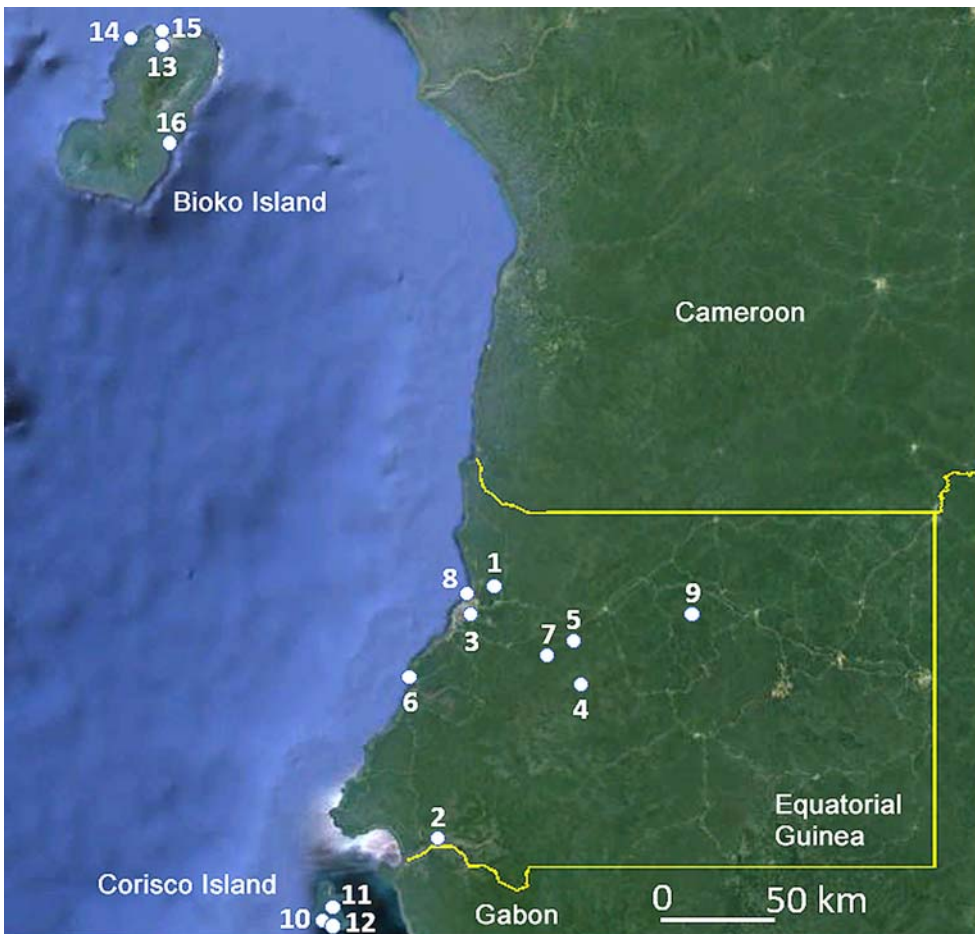


Figure 4 : Map of excavated sites in Equatorial Guinea. *On the continent*: 1 Akom; 2 Ayene; 3 Bomudi; 4 Esamelan; 5 Mabewele; 6 Mbini, Catholic Mission; 7 Mosumu; 8 Punta Eviondo (Bata); 9 Pebble engravings, Avé Maria Cave; *on Corisco*: 10 García; 11 Nandá; 12 Ulato; *on Bioko* 13 Banapa Seminary, Malabo; 14 Bolaopi; 15 Carboneras Beach and Timbabé; 16 Concepción.

likely, to belong to the Buela phase. Thus, the Bolaopi can be tentatively re-evaluated to roughly AD 910–1210 and the Buela to AD 1210–1510, followed by the yet undated Balombé phase.

Made up of three extinct volcanoes, or ‘picos’, with the summit of the tallest towering at 3008 m a.s.l., the geology and topography of Bioko restrict land-use to lower altitudes at the island’s periphery and to higher ground on the flatter surfaces between the volcanoes (Figure 5(a)). Food production limitations may have played a major role in ancient times, leading to conflicts. This is illustrated by a Bubi legend explaining that, confronted with food problems on his lands resulting from immigration from the continent, the Pico Basilé spirit’s wrath resulted in successive volcanic eruptions and earthquakes that isolated the island from the continent, stopping this unwanted immigration (Martín del Molino 1989b: 242). Martín del Molino’s maps (1989a), based on archives in Spain, illustrate how settlements were located for centuries along all the coastlines except in

Table 1. Radiocarbon dates from Bioko Island obtained from bulk samples of charcoal or oil palm nuts. All calibrations were performed using Calib 7.0.4 and the northern hemisphere calibration curve. They are expressed at two-sigma.

Site	Laboratory code	Age BP	Calibrated dates cal. AD	Notes
Carboneras	CSIC-101	1480 ± 50	460–660	CSIC-98 and -101 were recently found by Sánchez-Elípe Lorente (2015: 183), but had not previously been published. He seems to associate them with the Carboneras phase.
Carboneras	CSIC-98	1450 ± 50	510–670	
Carboneras	CSIC-102	1390 ± 50	550–710	Collected at a depth of 120–140 cm, Carboneras phase (Martín del Molino 1989a: 14)
Carboneras	Beta-25581	1370 ± 60	530–770	
Carboneras	CSIC-103	1360 ± 50	560–760	Collected at a depth of 140–150 cm, Carboneras phase (Martín del Molino 1989a: 14)
Carboneras	CSIC-100	1300 ± 50	610–810	Collected at a depth of 100–120 cm, Carboneras phase (Martín del Molino 1989a: 14)
Carboneras	CSIC-139	1290 ± 50	620–820	Collected at a depth of 60–80 cm, Carboneras phase (Martín del Molino 1989a: 14)
Carboneras	Beta-25545	1280 ± 50	610–850	
Carboneras	SR-18	1270 ± 100	560–960	Date on oil palm nuts collected at a depth of 120–140 cm according to Martín del Molino (1989a: 6, 14). Considered as Proto-Carboneras by Fagan (1967), but to belong to the Carboneras phase by Martín del Molino (1989a: 14)
Carboneras	CSIC-99	1250 ± 50	620–900	Collected at a depth of 80–100 cm, Carboneras phase (Martín del Molino 1989a: 14)
Carboneras	CSIC-96	1170 ± 50	710–990	Collected at a depth of 40–60 cm, Carboneras phase (Martín del Molino 1989a: 14)
Carboneras	Beta-25544	1110 ± 60	760–1040	
Bolaopí	SR-104	930 ± 100	910–1270	Date on palm nuts collected at a depth of 400–420 cm (Martín del Molino 1989a: 6, 14). Considered to be of the Middle and Late Carboneras phases by Fagan (1967), but of the Bolaopí phase by Martín del Molino (1989a: 14)
Bolaopí	SR-105	630 ± 100	1210–1450	Date on palm nuts collected at a depth of 80–100 cm (Martín del Molino 1989a: 6, 14). Considered to be Early Buela by Fagan (1967) and to belong to the Buela phase by Martín del Molino (1989a: 14)
Carboneras	CSIC-97	470 ± 50	1350–1510	Material collected at a depth of 0–20cm and associated with the Buela and Bolaopí phases (Martín del Molino 1989a: 14)

the south (Figure 5(b), 5(c)). Only during the Bolaopí and Buela phases did people settle between the two calderas on higher ground and also in the south of Bioko (Figure 5(d), 5(e)). This could be the result of significant population growth as suggested by the sheer increase in the number of sites for these two periods (AD 910–1510), but, on other volcanic islands, may also be the result of soil depletion driving populations gradually upwards along the flank of the volcanoes in search of more fertile areas. Settlement of higher ground could also have provided a means of escaping from diseases brought in by new immigrants and spreading along the coasts as recorded in southern Bubi traditions (Martín del Molino 1989b; Sundiata 1994). A clear reduction of settlements occurs during the final Balombe phase, although they are still located along the coast and in between the two calderas (Figure 5(f)). This may reflect a strong reduction in population due to intertribal warfare (Holman 1840: 309) and diseases brought by new African immigration and later by Europeans (Sundiata 1994: 520, citing yellow fever, smallpox, whooping cough, dysentery and trypanosomiasis). Descriptions by the

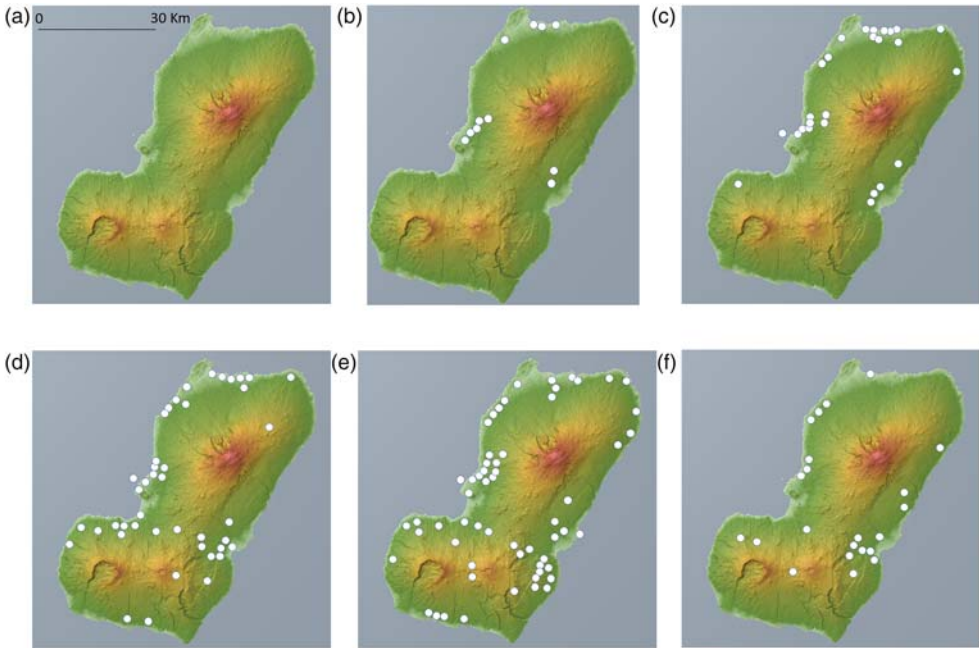


Figure 5. Distribution maps of archaeological sites on Bioko (based on catalogues in Martín del Molino 1989a).



Figure 6. Carboneras Beach in 1987 after cleaning the profile at CAR I.

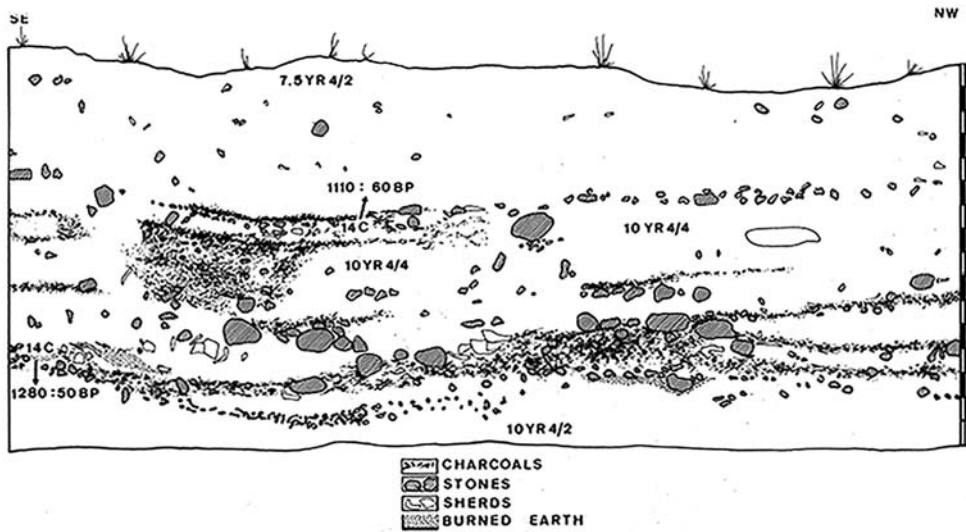


Figure 7. Carboneras Beach in 1987, CAR I.

first British settlers early in the nineteenth century illustrate irregular settlement densities, with the southern part of the island being the least populous, while it was the northeastern part that was the most populated and most intensively cultivated, hinting at its higher fertility (Holman 1840: 301–302).

Each of the five ceramic phases identified by Martín del Molino (1989a, 1989b) is chiefly characterised by its specific pottery style, with vessels nearly always having convex shaped bases and horizontal (later vertical) handles, along with associated lithic artefacts. A recent study by Sánchez-Elipe Lorente (2015: 161–178) of his extensive pottery data published back in the 1960s is today the best synthesis of these older finds (see also Figures 8–9 and 11–12).

What can be said of the other components of this unique sequence? The stone artefacts in use since pre-Sangoan times were produced from the basalt outcrops of the volcanic island, however we only have descriptions of the lithic components of the Carboneras and Bolaopi phases. The main difference lies with the Carboneras stone axes being simple straight-sided tools, sometimes with a finely polished cutting edge, while the Bolaopi ones were waisted. This very late development of the tenth–twelfth centuries is in sharp contrast with what was happening nearby on the continent, which was then completely into the Iron Age and the production of iron tools (Clist 2012, 2013), complemented in some specific areas like southern Congo by manufacture of copper artefacts as well (Nikis 2018). In the Timbabé phase, preceding the Carboneras, people used caves for rituals and gathered around erected stones or ‘menhirs’ (Figure 3) similar to a small one found during the Timbabé excavations of 1966 (Martín del Molino 1989a). Bubi traditions talk of a former *Baelá* people who were responsible for the construction of the three ‘menhirs’ then still in use on higher ground near Moka (Martín del Molino 1989b: 214). The Carboneras phase inhabitants dug large and deep pits in or near their villages, like those recorded at Banapa and Concepción (Figures 4 and 12). This led Martín del Molino to speak of it as ‘a culture of pits’ (‘la

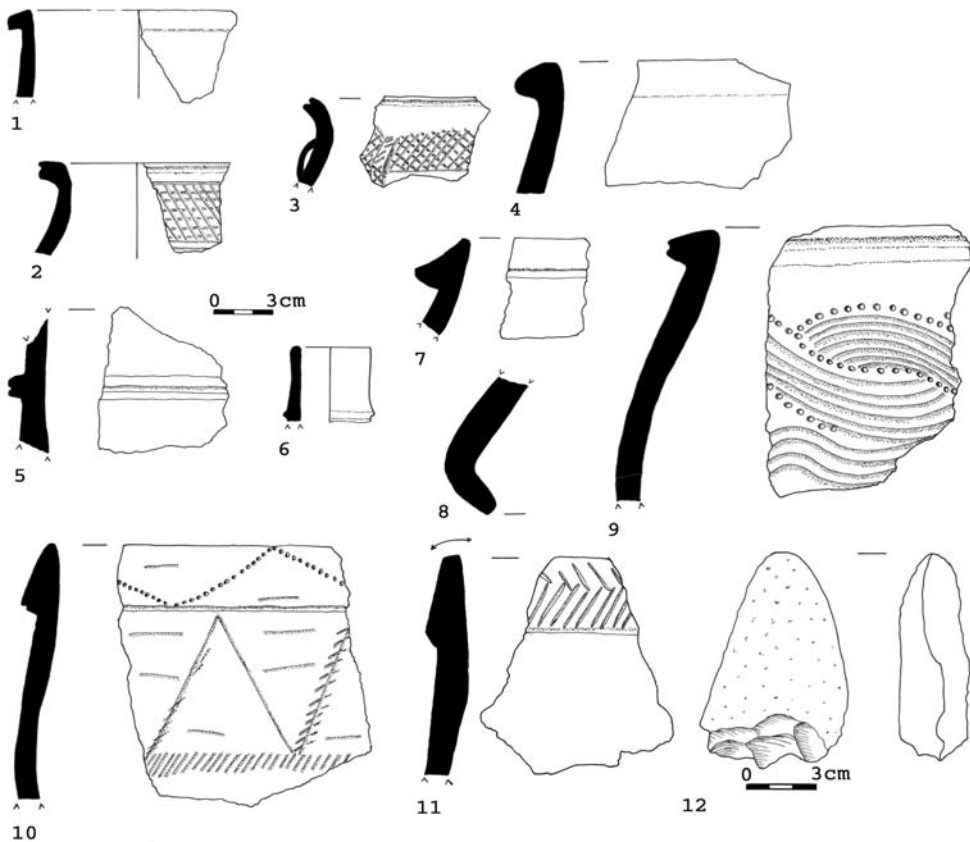


Figure 8. Carboneras Beach, pottery and basalt stone tool at location CAR I, upper layer, dated to c. 1110 BP.

cultura de los pozos’). Another, much more visible characteristic of this period are the basalt pebble pavements associated with both the Carboneras and Bolaopi phases (Figure 10). Martín del Molino (1968: 25) distinguished up to four types of these pavements according to the size and arrangement of the stones, with circular and rectangular shaped structures.

The Buela phase is partly coeval with the arrival of the Portuguese in the Gulf of Guinea in the later part of the fifteenth century (Holman 1840: 240; Hutchinson 1858: 173) and small-scale trade with Portuguese settlers on São Tomé after 1500. The last phase, Balombé, is characterised by rather coarse pottery and the introduction of iron tools via more regular European contact: the Dutch set up a trading station around 1600 on the east coast, the island was ceded to Spain by Portugal in 1778 (the Treaty of El Pardo) and from 1827 until 1843 Bioko was officially occupied and administered by the British, who set up a naval station at Clarence on the north coast, which was then the only European settlement on the island (Hutchinson 1858: 177-178, 181). Spanish sovereignty was restored in 1843 (Sheppherd 1983) with the first Spanish missionaries settling in 1856 (Hutchinson 1858: 179). Bioko, like the rest of Equatorial Guinea, then became independent of Spanish rule in 1968.

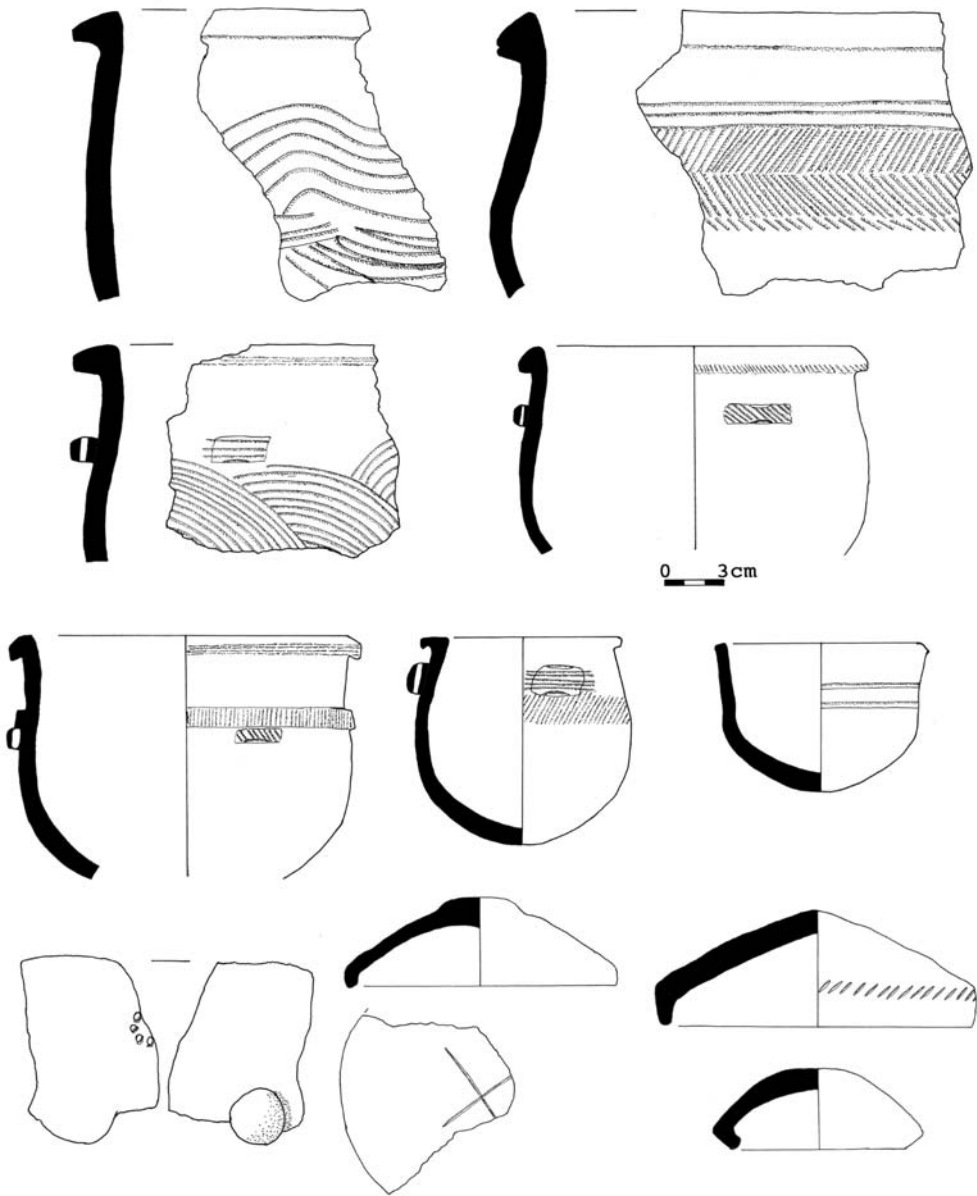


Figure 9. Carboneras Beach, pottery and basalt stone tool at location CAR I, lower layer, dated to c. 1280 BP.

The 1987 excavations

On behalf of the Department of Archaeology of the International Centre for Bantu Civilisation (CICIBA) located in Libreville, Gabon, we carried out, with very limited means, a brief survey along the coast on the northeastern and northwestern parts of Bioko from 14 to 21 April 1987, before the oil boom that has since profoundly transformed the region.

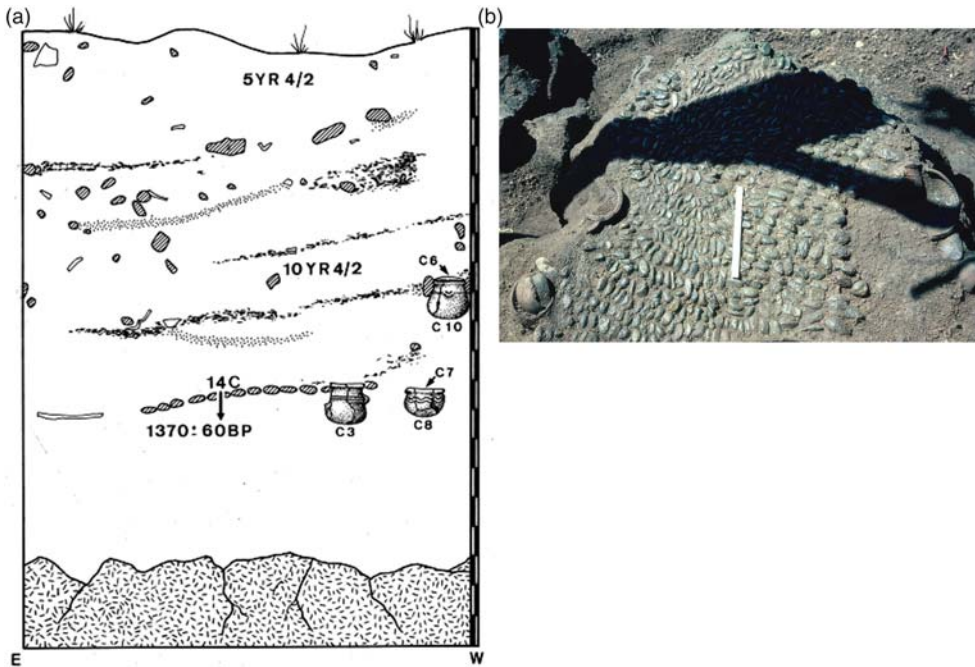


Figure 10. Carboneras Beach, profile at location CAR II and picture of lowest pebble pavement with *in situ* pottery; the scale is 30 cm long.

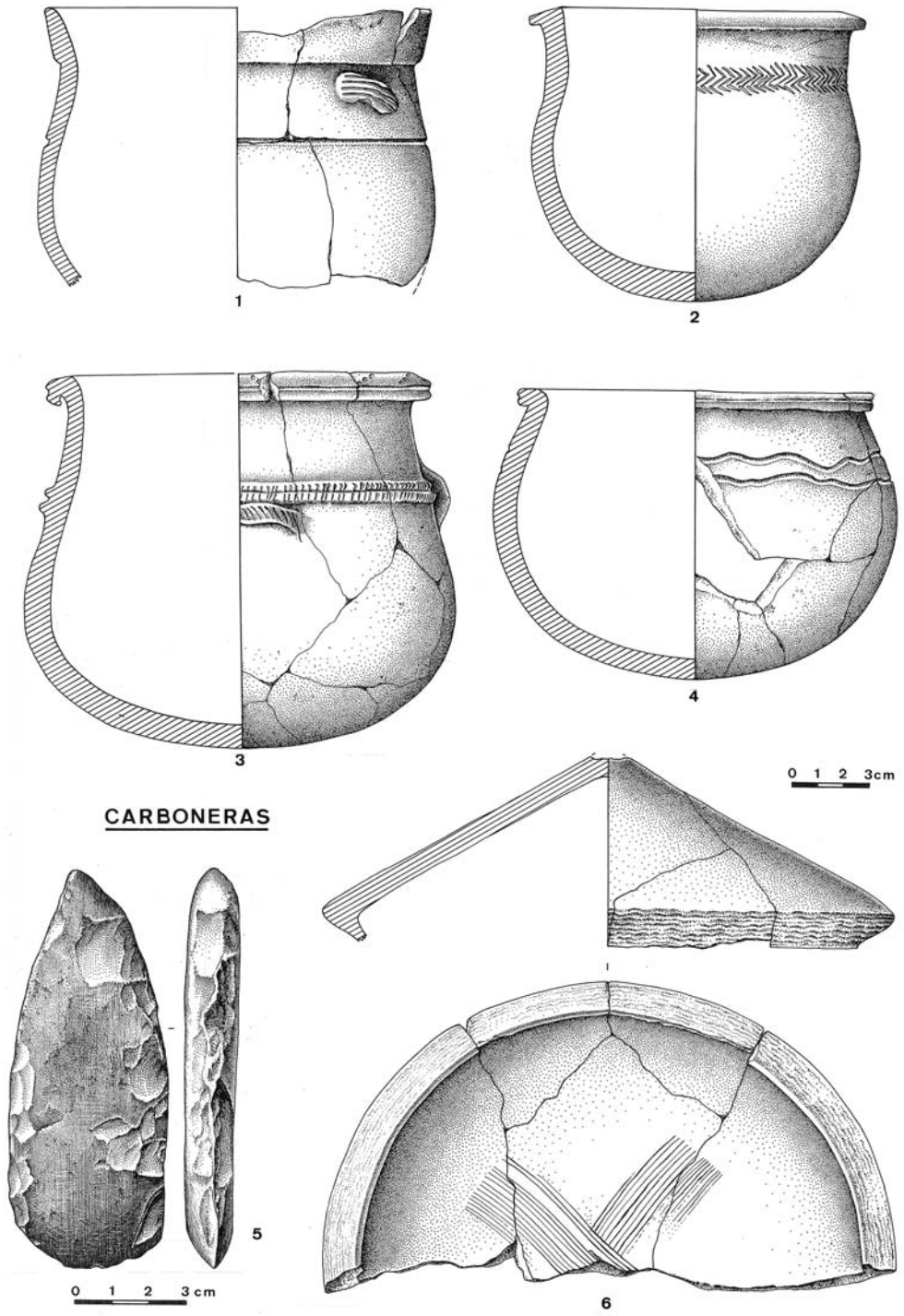
Carboneras Beach

As mentioned previously, the Carboneras Beach site was identified in 1946, first excavated in 1958 and 1959 and then excavated again in December 1966 (Martín del Molino 1989a: 6). Nine ^{14}C dates were obtained (Table 1). Although a detailed report about the dates and the associated artefacts is lacking, the most recent publication associates CSIC-97 to the Buela and Bolaopi phases, and the other dates to the Carboneras phase. Buela and Bolaopi material was found between the surface and a depth of 40 cm below the surface, the Carboneras material from -40 cm to the bottom of the profiles around 180 cm below the surface (Martín del Molino 1989a: 14).

Walking on the beach at Carboneras in 1987 we could see the archaeological deposits being attacked by the sea along 1.5 km of coastline between the Rio Timbabé in the west and the Rio Carboneras in the east. Our rescue excavations were set up on the beach of Carboneras, to its western side toward the Rio Timbabé. They mainly consisted of cleaning the sometimes 4-m-high deposits that had been exposed by the tides (Figure 6). Our work was carried out during low tide on three points on the western part of the beach. Faced with the ongoing destruction of this important site, our main objective was to collect as much information as possible in order to corroborate the sequence developed by Martín del Molino.

Carboneras I (CAR I)

The first excavation was carried out along 4 m of the beach's cliff some 360 m east of the mouth of the Rio Timbabé. Following a thorough cleaning of the profile, the pedological and archaeological components identified were, from bottom to top (Figure 7):



CARBONERAS

Figure 11. Carboneras Beach, pottery and polished stone axe at location CAR II dated to c. 1370 BP. 3: C3; 4: C8.

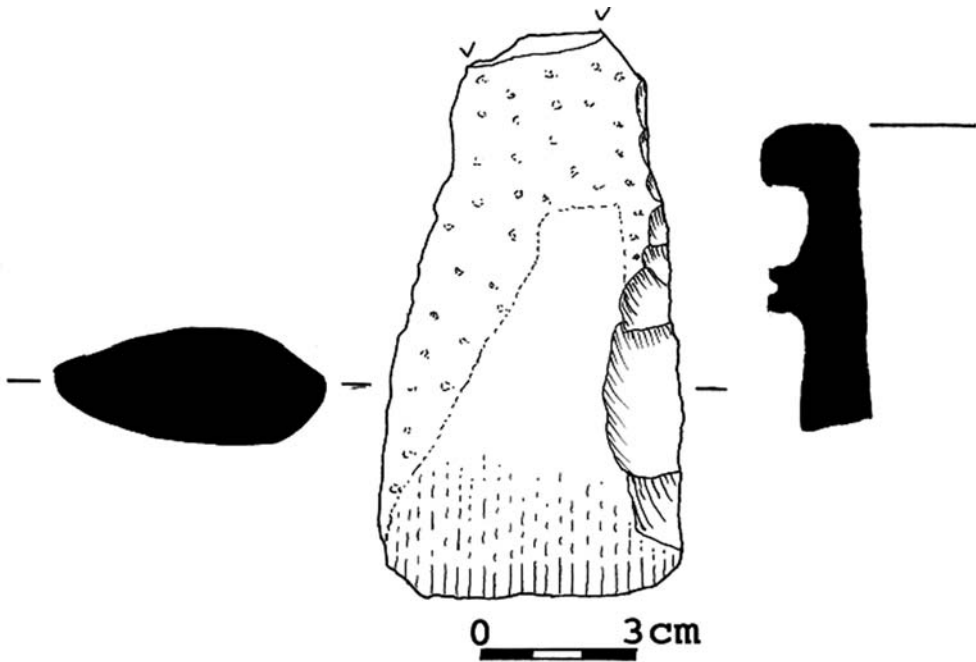


Figure 12. Carboneras Beach: polished stone axe and rim sherd from the layer 5 m west of CAR II at Carllb.

- A very compact yellow brownish sand at the high tide level (10YR4/2)
- Thin level of pebbles approximately 30 mm in diameter
- Lower archaeological level (see below)
- A thick level of sticky clay in which several wood charcoal and pebble lenses were embedded (10YR4/4)
- Upper archaeological layer (10YR4/4)
- Upper clay deposit and humiferous layer (7.5YR4/2).

The upper archaeological layer consists of a basalt pebble alignment/floor, with wood charcoal, oil palm (*Elais guineensis*) nuts and pottery buried at a depth of 60–70 cm below the modern surface (Figure 8). To the east of the profile, this layer splits up into two separate sub-layers, limited by an intermediate clayey layer, from which a small pit opens up, going down to near the upper part of the lower archaeological layer (Figure 7). Pottery of the Carboneras phase was identified (Figure 8) as described by Martín del Molino and reassembled by Sánchez-Elipé Lorente (2015: 168–169). Charcoal from this layer was dated to 1110 ± 60 BP (Beta-25544, cal. AD 760–1040 at two-sigma, as with the remainder of our radiocarbon dates).

Several metres from the CAR I profile and at a depth of 60–70 cm in the upper part of the clayey layer described above we found a pebble layer mixed with Bolaopi-like pottery, again as described by Martín del Molino (1960, 1965, 1968).

The lower archaeological layer consists of a clear archaeological layer full of carbonised palm nuts and wood charcoal aligned along a sub-horizontal axis buried at a depth of 120–140 cm (Figure 7). It contained basalt pebbles and pottery of A. Martín's

types I, III and V (our [Figure 9](#)). According to the known cultural sequence, they date back to the Middle Carboneras phase (Martín del Molino 1960, 1965; Sánchez-Elipé Lorente 2015: 168–169). To the west the layer subdivides itself into three separate sub-layers, while to the east two sub-layers can be identified. Charcoal from this layer was dated to 1280 ± 50 BP (Beta-25545, cal. AD 610–850).

Carboneras II (CAR II)

Further to the west on Carboneras Beach, we identified a layer of regular pebbles of approximately 20–30 mm in diameter located in the beach embankment at -125 cm from the surface. After the profile's cleaning, several other archaeological layers became apparent and we called this location Carboneras II (CAR II; see [Figure 10](#)).

A small horizontal excavation uncovered about 3 m² of a pebble floor made up of small basalt pebbles, carefully selected, of about the same size, and set up on their side ([Figure 10](#)). This pebble floor is quite similar to those described by Martín del Molino (1965: 17). Associated with it we found numerous carbonised palm nuts, both intact and fragmented, a basalt flake and several potsherds. Two intact pots were found embedded on the side of the pebble floor with their mouths at its level (cf. [Figure 10](#) for the profile; see [Figure 11](#) for illustrations of the pottery). The pots and potsherds relate to Martín del Molino's I, II and IV types, of the Middle Carboneras. Charcoal from the layer was dated to 1370 ± 60 BP (Beta-25581, cal. AD 530–770).

Above the lower level at CAR II, four other archaeological levels were recorded ([Figure 10](#)). The most interesting was buried at a depth of 90 cm and consisted of a dense series of wood charcoal and palm nuts associated with potsherds. One intact pot with a lid was found, its opening at the level of the archaeological layer, in a similar way to the situation in the older pebble pavement below; four large basalt blocks surrounded the pot's lip ([Figure 10](#): C6 and C10).

Carboneras IIb (CAR IIb)

About 5 m to the west of CAR II, we found a second pebble pavement identical to the previous one and connected with it by a continuous alignment of wood charcoal between the two structures. A polished stone axe and a Carboneras style potsherd lip were collected here ([Figure 12](#)).

Carboneras III (CAR III)

Halfway between Rio Carboneras and Rio Timbabé, i.e. to the east of our excavations, a succession of thick colluvial layers, rich in cultural material, particularly of Middle Carboneras pottery, was followed in the profiles down to the high tide level and for some 300 m along the beach.

Banapa Seminar, Malabo (03°43'45"N, 08°46'18"E)

To collect information on the supposed pre-Sangoan Banapa industry we went to Banapa in 1987. The Catholic Seminary, located 2.5 km to the south of Malabo, is today fully

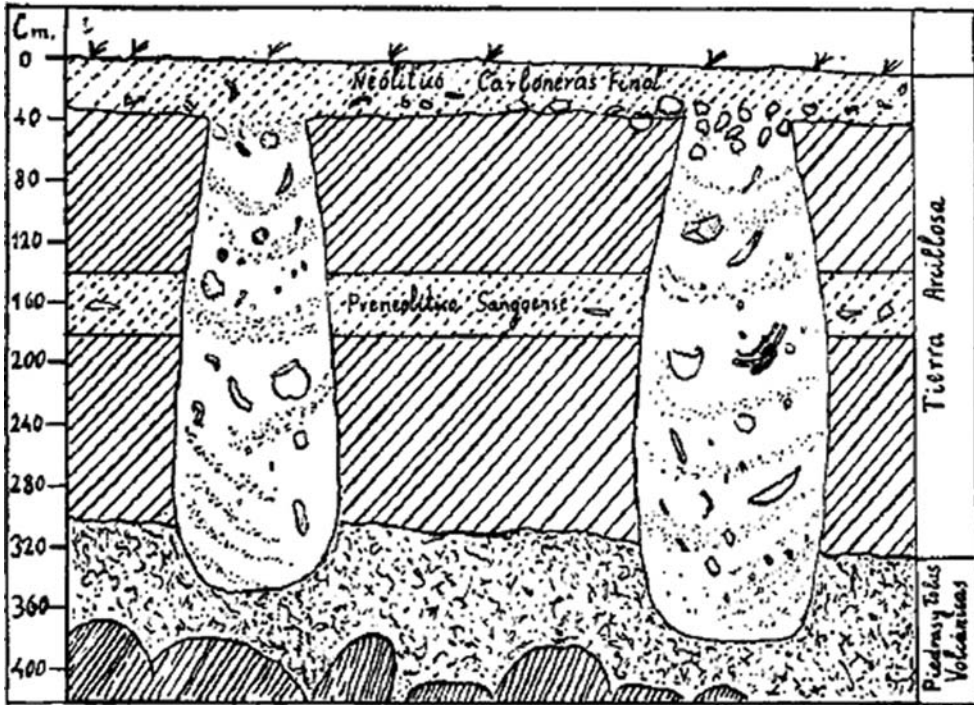


Figure 13. Stratigraphic section of the Banapa Seminary site as recorded by Martín del Molino (1965: 11, Figure 2).

embedded within the capital (Figure 4, site 13). It was there that in 1963, following the building of a water reservoir, Martín del Molino recorded a ‘pre-Neolithic’ layer at an approximate depth of 160 cm below the surface that contained basalt knapped tools but lacked both pottery and palm nuts. Above, was a Late Carboneras settlement layer at a depth of 40 cm from which deep pits had been dug down to as much as 3.6 m below the surface (Martín del Molino 1965: 12-14; and see our Figure 13).

We opened a 2.0 × 1.5 m test trench in the grounds of the seminary to a depth of 2.0 m, but could not find the refuse pits or the ‘pre-Sangoan’ layer found by Martín del Molino. Instead, only a single archaeological layer was present, at a depth of 30–50 cm. Finds consisted of charcoal, a basalt bifacial pick, flakes and pebbles and pottery that included a Buena phase-looking rim. According to the known cultural sequence, this Buena layer would be later than the Late Carboneras material found in the 1960s.

Bolaopi Beach (03°42'56"N, 08°39'24"E)

Bolaopi Beach is located 13 km southwest of Malabo on Bioko’s northwest coast (Figure 4, site 14). In 1961, Martín del Molino (1965: 29) carried out a 1.0 × 2.0 m test excavation here, concluding that Bolaopi was the island’s most important archaeological site. He obtained two ¹⁴C dates from Layer 5 (630 ± 100 BP; SR-105) and layer 21 (930 ± 100 BP; SR-104) (Martín del Molino 1989a: 14). In 1968 he carried out a second excavation briefly described years later as follows:

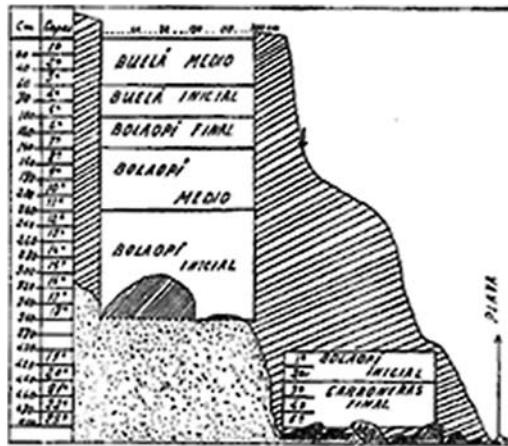


Figure 14. Stratigraphic section of the Bolaopi site as recorded by Martín del Molino (1965: 29, Figure 11).

‘We excavated at Bolaopi to find the first settlement levels of the Bolaopi phase. The trench, 1.45 m deep, identified six levels of occupancy with some cobbled floors coming to light. Under the last level a corpse appeared in a foetal position, with its back to the ocean and its head directed towards the Basilé peak. However, the first levels of the Bolaopi phase were not found, which, we believe, can occur at the Los Pescadores site, east of Carboneras’ (Martín del Molino 1989a: 7, our translation).

Lacking time during our own short stay on Bioko, we restricted our observations to the profile showing towards the Rio Bolaopi. We were able to identify about 3 m of cultural deposits without any interruption as Martín del Molino had illustrated in 1965 (Figure 14) with dozens of potsherds of the Bolaopi and Buella phases associated with a stone industry on basalt alongside pebbles or stones of lava and basalt. Below the Bolaopi profile, along the basalt pebble beach we recorded dozens of large boulders covered with spectacular axe-grinding grooves similar to that described by Kennedy (1962) (Figure 15).

Bioko and its Guinea Gulf setting in an historical perspective

We know from excavations on the island of Corisco that villages existed some 2000 years ago near the continental mainland of Africa to the south of Bioko (González-Ruibal *et al.* 2011, 2013), while on the continent itself in both Cameroon and Gabon one finds still earlier settlements dating back some 3000–2500 years and related to the Obobogo (Cameroon) and Okala (Gabon) Groups or Traditions (Clist 1995; de Maret 2003; de Saulieu *et al.* 2015, 2017). It is therefore strange that so far Bioko’s ceramic sequence does not start before 1500 BP, particularly since as the Bubi language spoken by the island’s older inhabitants is considered by linguists to have split off very early from other Bantu languages, perhaps before 4000 BP (Figure 16(a); Vansina 1990, 1995). While there is evidence of human occupation before 1500 BP without pottery in the form of the so-called Pre-Sangoan, this remains undated, though it is very likely much too old to be related to the first steps of the Bantu expansion with which pottery was associated (Bostoen 2007).



Figure 15. Grinding benches on the beach at Bolaopi.

According to an oral tradition from northern Bioko recorded by Tessmann (1923: 10), the Bubi were always on the island, with some informants claiming that they came out of the tallest crater that dominates the north of the island. In contrast, a southern tradition suggests that the Bubi came on boats from the mainland, from the east or southeast (Martín del Molino 1989b; Sundiata 1995: 598). How this relates to the oral traditions that tell of a Great Migration in four waves, which, after landing in the southern and southeastern parts of Bioko occupied and ruled it completely (Aymemi 1942: 13–22) remains unclear. Could those immigrants have conquered the earlier Bubi settlers to establish the aristocracy that ruled in the nineteenth century? There are some elements that hint that this conquest did indeed take place, but, if this was the case, those late-comers nevertheless adopted the language and material culture of the indigenous population (Vansina 1990: 140–146). Martín del Molino (1989b) for his part mentions some Bubi traditions stating that some of the raised stones on Bioko had been set up by another people who had lived there before them.

Following the most recent historical linguistic research, the position of the Bubi language (A31), which is part of the A30 ‘Bubi-Benga Group’ (Maho 2008: 14), is quite high and thus very early in the evolutionary tree of Bantu languages as a whole (Figure 16(a)). Later, the other languages spoken in modern Equatorial Guinea diverged from the main Bantu trunk as part of the Northwestern Bantu languages: first Batanga (A32), Ngumbi (A33b), Yasa (A33a) and Benga (A34), with Fang (A75) later still. Gyele (A801) and Kwasio (A81) are somewhat younger, developing after Fang, and modern-day creoles are, of course, very recent (Maho 2008; Bostoen *et al.* 2015: 360, Figure 3). Figure 16(b) shows the presently known dialects within Bubi and spoken on Bioko (Philipsson 2018, based on the work of Bolekia Bolekia 2009, 2013). A split is apparent between at least the northern and southern dialects.

We are therefore left to ponder: is the absence of evidence of an early pottery-using population on Bioko the result of insufficient fieldwork? The available ¹⁴C dates are fairly numerous (Table 1), but none predate 2000 BP to hint at earlier settlements. When we consider the small number of excavated sites of which only two were dated, Carboneras with 13 dates and Bolaopi with just two, both in the northwestern part of the island, this does indeed hint at insufficient coverage. This impression is strengthened by the archaeological maps published by Martín del Molino (1989a) and reproduced here (Figure 5). Examining them suggests that the site distributions they record more likely reflect accessibility rather than systematic fieldwork.

Another aspect of the problem must be considered at this stage. Assuming that the ancestral Bubi immigrated to Bioko, can we find similar pottery to that of the Carboneras phase on the Cameroon mainland at either an earlier or contemporaneous date? The shapes, decorations and flat bases of the pottery found on the continent from Douala to Campo are clearly different from the ceramics used on Bioko with their convex bases and lack of lids (Meister and Eggert 2008; Nlend Nlend 2014; Sánchez-Elipe Lorente 2015; de Saulieu *et al.* 2017).

Sites dated to before 2200 BP that relate to the first phase of expansion of villages possibly associated with the dispersal of Bantu-speakers have the least connections as their pottery is often extensively decorated, with frequent use of rocking stamp impressions, specific shapes and flat bases. Toward Douala and Edéa we have Dibamba (style E, dated to *c.* 2450 BP; de Saulieu *et al.* 2017: 35, Figure 11), towards Kribi Bissiang

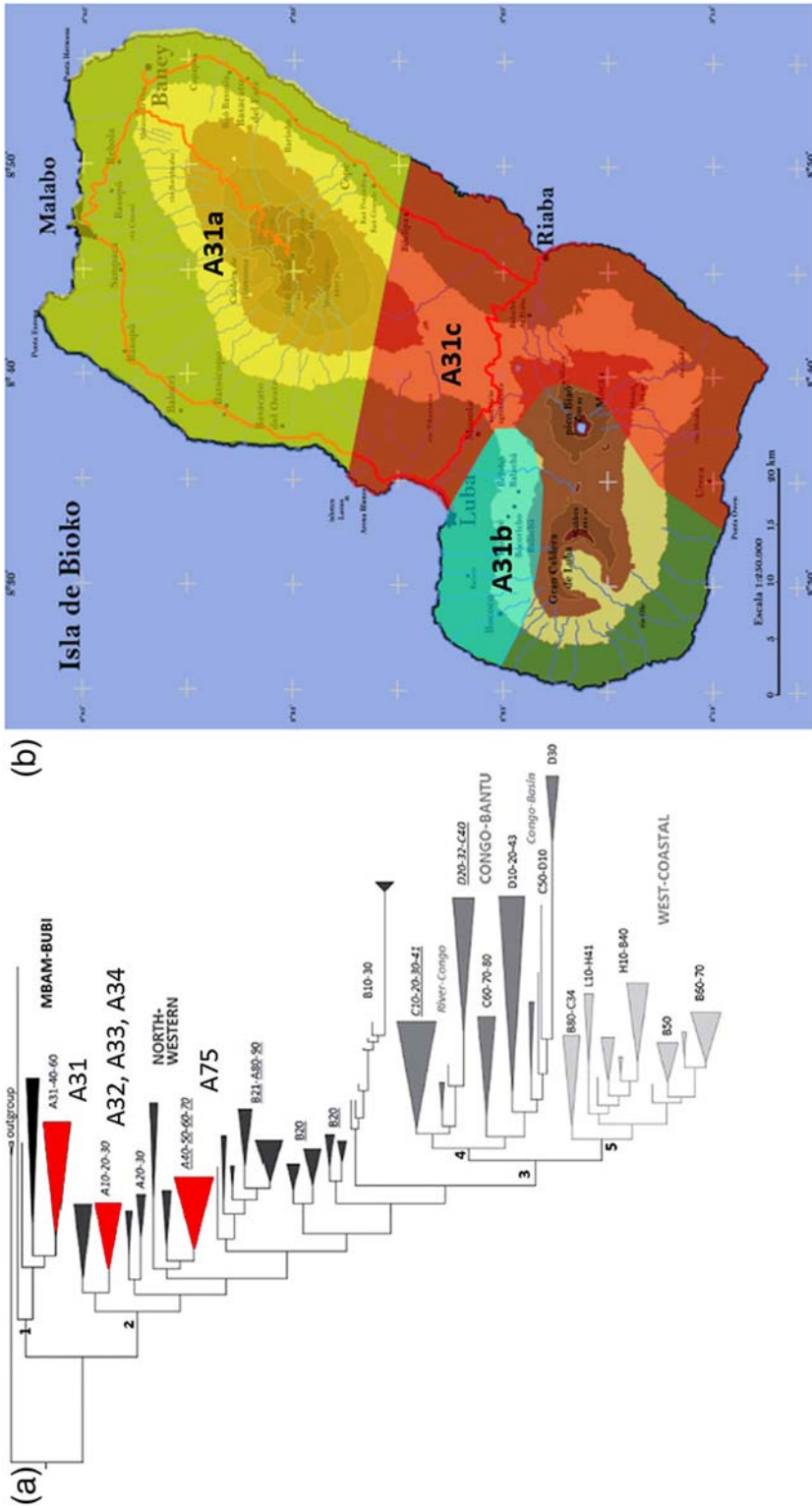


Figure 16. The linguistic history of Bubi. At left, its position (A31) in red within the overall tree of Bantu languages (adapted from Bostoen *et al.* 2015); at right, dialects of Bubi on Bioko (Phillipson 2018).

(c. 2600 BP; Lavachery *et al.* 2010: 175) Bwambé ‘sommel’ (between 2550 and 2160 BP; Oslisly 2006: 131; Eggert *et al.* 2006: 283, Kahlheber *et al.* 2014: 500; Nlend Nlend 2014: 257), Dombé (c. 2500 BP; Lavachery *et al.* 2010: 175), Malongo 1 (c. 2340 BP; Oslisly *et al.* 2006: 131; Nlend Nlend 2014: 199), Makouré I (c. 2210 BP; Lavachery *et al.* 2005: 175) and Campo (2305–1184 BP; Eggert and Seidensticker 2016; see also Nlend Nlend 2014).

After about 2200 BP, with the expansion of iron metallurgy and the more regular use of iron tools, the number of specific pottery styles extending into more restricted geographical areas increases, hinting at new population movements, but again we cannot find any close relationship with the earliest pottery from Bioko. Toward Douala and Edéa Dibamba comes up again (style D, dated to 1980–1810 BP; de Saulieu *et al.* 2017: 34, Figure 9) along with Mouanko-Lobethal (2162–1753 BP; Eggert 2002: 520; Meister 2008: 46–47, 2010: 241) and Yatou (1985–1227 BP; Eggert 2002: 520; Meister 2008: 47). Toward Kribi we know of Ndtoua (c. 1900 BP; Lavachery *et al.* 2010: 175), Lolabé (1900–1800 BP; de Saulieu *et al.* 2017), Nlendé Dibé 3 (c. 1900 BP; Oslisly *et al.* 2006), Eboudja 3 (1740–1280 BP; Nlend Lend 2014: 283), Bidjouka (1580–1480 BP; Lavachery *et al.* 2010: 175), Bidou 2 (c. 1530 BP, Lavachery *et al.* 2010: 175) and finally Campo (2305–1184 BP; Eggert and Seidensticker 2016).

Furthermore, on Bioko, iron was not processed and the making and use of polished stone axes and adzes persisted into the nineteenth century (Hutchinson 1858; Tessmann 1923). The only similarity then is to be found in the traced wavy-lines decoration on some pots and the way in which most decoration is organised on the upper parts of the vessels, the latter being characteristic of most Early Iron Age pottery in western Central Africa. However, it should also be noted that the large and deep pits that characterise the Carboneras phase and that led Martín del Molino to speak of ‘a culture of pits’ strongly evoke the numerous deep pits associated with the first villages and Early Iron Age on the adjacent African mainland (de Maret 1994/95).

Looking elsewhere for any ceramic connections, we find to the north of Bioko in the Calabar area of Nigeria several excavated sites dated to between 1400 and 650 BP, i.e. during Carboneras and Bolaopi times. However, their pottery is also starkly different from that of Bioko and continental Central Africa (Slogar 2005). Along the Nigerian coast to the west between Port Harcourt and Calabar no comparisons can be drawn because of the poor state of the available documentation. Additionally, we must stress that the coastal reaches of Cameroon between the Nigerian border and Douala also remain archeologically unknown. It is in this area, however, where the small towns of Idenao, Limbe and Victoria are located, that the distance between the continent and Bioko is shortest. Interestingly it is also precisely there, north of Limbe that we find the Wuvia, a community of a few hundred speakers of a variant of the Bubi language (Blench 2012: 277). Their vocabulary is evidence of a good knowledge of the ocean, its resources and the fishing techniques needed to exploit them (Blench 2012: 275–279).

Stone monoliths similar to some of those found on Bioko are limited to the Cross River area of eastern Nigeria (Slogar 2005: 197) and the neighboring Grassfields and Bamiléké Plateau of Cameroon (Notué 2007–2009; Tchandeu and Mezop Temgoua-Noumissing 2017), although one isolated example is known from Gabon (Raponda-Walker and Sillans 1962: 280–282). On Bioko, several are associated with various spirits and are considered sacred, along with several caves (Martín del Molino 1989b: 213–247). This is similar to beliefs held in eastern Nigeria. For the time being, none of those monoliths

from Nigeria, Cameroon or Equatorial Guinea have been excavated and dated, although discovery of a small ‘menhir’ only 30 cm high in a Timbabé layers context (Figure 3(a)) suggests that their use may predate the Carboneras phase (Martín del Molino 1989: 15). However, we lack supporting evidence, including the stratigraphy of the Timbabé site and a detailed description of the monolith. Another potentially important similarity concerns the basalt partially polished axes or hoes of the Cameroon Grassfields and their counterparts from Bioko, just 350 km away as the crow flies (de Maret 1982). Bioko’s stone pavements with intact pottery imbedded in them, on the other hand, are difficult to trace. They are unknown in Cameroon, although in Nigeria potsherd pavements are widespread (Nzewunwa 1980; Agbaje-Williams 2001; Ogundiran 2005: 150), with small stone pavements seemingly limited to Ife (Connah 2001: 156, 159). Potsherd pavements said to be associated with embedded pottery date to the twelfth-fifteenth centuries (Ogundiran 2000) and in these cases the pots have had their bottoms removed to let the liquids used in rituals to the ancestors pour through into the earth and reach them. On Bioko, examples of these pavements from the Bolaopi phase are contemporaneous with those found in Nigeria, while those from the Carboneras phase are earlier.

There is also limited archaeological evidence of contacts between Bioko and various coastal communities on the adjacent mainland, from which the island’s tallest summit can be seen from the Niger Delta in the west to Mbata in continental Equatorial Guinea in the east. In the opposite direction, Mount Cameroon is visible from the north coast of Bioko (Figure 1). One polished stone axe made from a green metamorphic rock has been surface-collected from the BN4 site in northeast Bioko. Geological analysis shows it to be an import to the island (Sheppherd 1983: 69). Moreover, ceramics found in Final Carboneras layers (Martín del Molino 1965: Figure 10 B1) are identical to typical Nandá Group pots (Peyrot *et al.* 1990: 496; Clist 1998: 216) as found on Corisco and in the Libreville area of Gabon, where they are dated to AD 600–1220 (Clist 2005: 628–631; Lorente *et al.* 2016: 356–357).

British records from early nineteenth-century Bioko texts document that Bubi women fished in rivers and on the beaches, while men were ocean-goers, hunting whales with wooden harpoons and fishing for tuna, with specific rituals associated with this (Holman 1840: 332–333; Martín del Molino 1989b: 462–466). Consistent with this, Martín del Molino (1989a) observed the presence of fish bones at the Banapa archaeological site. But whereas early in the nineteenth century some 50 fishermen villages were mentioned (Holman 1840), by the end of the 1950s fishermen only departed from Ureca and Basoso (Martín del Molino 1989b: 462), with further reduction since (Blench 2012: 276).

If the Bubi could fish out at sea, did they trade with people living on the African mainland? Sheppherd (1983: 70, 76; and see also Blench 2012: 276) has suggested that the high number of grinding stones along Bioko’s beaches do not tally with the number of basalt adzes and axes, suggesting that at least some were exported across the Gulf of Guinea. However, none of the polished stone adzes and axes found on the African coast from Cameroon to Equatorial Guinea, whether waisted or not, are made from basalt (Perramón 1968: 16; Clist 1986: 4, 1998: 216; Oslisly 2006). Further south, some basalt axes are associated with the Okala Group in Gabon, but the material used must surely come from the old Gabonese volcano near Libreville at Pointe Gombe, not Bioko (Choubert 1937: 56–57). For the time being, then, nothing seems to support Sheppherd’s hypothesis of a trade of polished stone tools from Bioko to the continent, although further petrological analysis may tell us more.

Part of our interest in whether there was trade between the Bubi and their continental neighbours lies in the fact that iron tools have not yet been found in any excavations on Bioko nor is there any evidence that iron production took place there, even though it was practised on the nearby continent from at least 2400 BP (Clist 2013; de Saulieu *et al.* 2017: 34). Seafaring Bubi may have brought an occasional iron artefact to Bioko Island, but only in the first half of the nineteenth century did the local coastal trade introduce iron implements in significant amounts to the island. It has been noted that iron exists in the sands of Bioko composed of magnetite (29% iron, 35% silica, 24% magnesium), chromite (32% iron and 37% chrome) and ilmenite (56% iron and 30% titanium) (Shepherd 1983: 61–62, 77). However, the *chaîne opératoire* followed by early smelters probably required iron ore or laterite with a high percentage of iron, something only available on the continent. Bioko's inhabitants therefore retained for centuries the tradition of knapping local basalt in order to make tools, especially the adzes and axes still in use in the nineteenth century (Hutchinson 1858: 192; Tessmann 1923: 46, Figure 22). We know that passing British vessels obtained water, yams, fowls, palm wine, fish and monkey and snake skins from the Bubi, initially in exchange first for iron hoops a few inches long (Holman 1840: 245), but later for 'Birmingham'-made axes, cutlasses and machetes (Hutchinson 1858: 175, 192). Holman (1840: 245) specifically notes the absence of any local ironworking knowledge when recording that 'we afterwards found they made into two-edged knives [the pieces of iron hoop] by beating them between stones, until they succeeded in shaping the blade to their purpose, when they fitted it into a wooden handle, from four to six inches in length.'

On Bioko (Martín del Molino 1989b: 454–457) just as in southeastern Nigeria and the Cameroon Grassfields (Suffill 1943: 179; Jeffreys, 1951: 1205, 1955, 1957: 264–268; Iwuagwu 1998: 89–90) annual ceremonies existed for the new yam season that required the use of only stone tools. A certain degree of isolation, a lack of suitable iron ores, easily accessible basalt, a very old tradition of working stone and some rituals may collectively explain why iron was not in use before European arrival. Recently, however, Sánchez-Elipe Lorente (2015) has suggested that Bubi's non-adoption of metallurgy and the use of metals was closely linked to an active rejection of practices that might promote social inequality as documented on the mainland by cemeteries illustrating the development of status-related burial practices in southern Cameroon and southern Equatorial Guinea in the first millennium AD and thus broadly contemporary with the Carboneras phase on Bioko (Meister and Eggert 2008; Meister 2010; González-Ruibal *et al.* 2011, 2013; Sánchez-Elipe Lorente 2016). We nevertheless find this hypothesis unlikely as Bubi society had an elaborate system of social ranking during the nineteenth century even while it kept to its stone-based material culture (Sundiata 1994: 509–510). But perhaps this should be put in another perspective since recent research has proposed that this hierarchy was a quite recent social reorganisation in response to the 'increased presence of foreign powers and foreign actors and the consequent need for protection and resistance' (Sá 2016: 141).

For some years, publications underlining various genetic connections between the peoples of Central Africa and neighbouring regions have been produced (see the bibliography on <http://www.african-archaeology.net/biblio/bibliogenetics.html>). Possible methodological mishaps have been discussed (MacEachern 2000; Eggert 2016: 85–88) and the overall knowledge obtained by molecular anthropology about the expansion of

Bantu-speakers in Sub-Saharan Africa has been presented (Schlebusch and Jakobsson 2018: 412–415). It is thus remarkable that only recently have studies been carried out in the northwestern part of Central Africa and on the Bubi, in particular. A first and preliminary genetic study of 13 Bubi genomes shows no extensive genetic differentiation from potential source populations along the coast, but ‘also indicates that drift did not have time to operate at large scale and that colonization of the island did not occur a long time ago’ (Gelabert *et al.* 2019: 8). This seems to support our suggestion based on archaeological evidence that the first villagers may have settled the island only slightly before the diffusion of iron production on the coast of Cameroon, *c.* 2000 BP.

Conclusion

As is often the case in West-Central Africa, linguistic and archaeological evidence do not always match. Historical linguistics indicate that the Bubi language was one of the first to diverge from Proto-Bantu, possibly as much as 4000 years ago. However archaeologically, beside the hypothetical — and as yet undated — Timbabé phase, Carboneras phase pottery only goes back to around 1500 years ago. Trying to reconcile archaeology and linguistics, one may hypothesise that the ancestors of the Bubi lived first on the mainland between the Nigerian border and the present town of Victoria in Cameroon around 4000 years ago. Their specific material culture incorporated elements and beliefs from neighbouring peoples in Nigeria as they became fishermen and eventually settled on Bioko before iron metallurgy reached their coastal area. They then lived on the island in relative isolation, without iron for centuries, but not for enough time to pass to result in major genetic differentiation from their mainland relatives.

In view of the many particularities of Bioko and its archaeological potential, our knowledge of its past remains very patchy, leaving too many questions unanswered. In view of the rapid development of infrastructure on the island, threatening what is left of its archaeological heritage, a new archaeological project must be started there as soon as possible. Informed by previous distribution maps of archaeological sites, a systematic survey should be undertaken, with remaining key sites located at a variety of locations and altitudes properly excavated in order to shed light on this most peculiar cultural sequence that ended with the Bubi, as well as on how Bioko’s prehistory connects with the broader continental African past.

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